Quick startup regression

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Objective

- Have quick startup regression algorithm which relies on generating coefficients from a single day of data.
- Be able to generate regression coefficients independent of RTA to avoid bias problems.
- Current regression relies on limb adjustment coefficients and is based on simulated data.
- Limb adjustment coefficients based on real data requires many days of data – (30 days).

Features

- Original regression remains.
- Option for quickstart or original regression.
- Quickstart use ECMWF analysis for truth.
- Regression coefficients are generated for groups of fovs -- 4 groups divide by intervals of 0.1 cosine view angle.
- Group 1 (largest angles) has 2 fovs
- Group 2 has 3 fovs
- Group 3 has 4 fovs
- Group 4 has 6 fovs

Features

- Predictors are :
  - 60 principal component scores
  - AMSU-A channels 4 –14
  - HSB channels 1 – 4
  - 1 – cosine(view angle)
  - swath side

Features

- Will use cloud detection test to determine “clear” fovs.

- Coefficients are generated from mostly clear fovs.

Monitor coefficients

- Plan to monitor coefficients in the same manner as monitoring eigenvectors.
- Generate daily coefficients compare them with static coefficients.
- If there are outliers, then add to original ensemble and regenerate coefficients.

Original regression

- Need many days of data to generate limb adjustment coefficients.
- Use radiosonde collocations (ECMWF analysis added to top)
- Coefficients will not be ready for 6 months.

ALSO

- Original regression can be used as is.
- But need bias tuning.
- Perhaps this will work ???

Compare both regressions

- Both regressions will be compared.
- Decision will be made (Launch + 12 months).
- Prefer radiosonde based regression using single type radiosonde instrument.